



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/446,888	12/30/1999	TOSHIYUKI FUTAKATA	6342-0039-2	3055

22850 7590 08/12/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

KUMAR, PANKAJ

ART UNIT PAPER NUMBER

2631

DATE MAILED: 08/12/2004

1A

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/446,888

Applicant(s)

FUTAKATA ET AL.

Examiner

Pankaj Kumar

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 5/26/2004 have been fully considered but they are not persuasive.
2. Applicant argues that Needham does not disclose assigning a code associated with each base station group including more than one base station since Needham discloses only one base station generating a long code using a talk group identifier corresponding to a group of communication units. This is not persuasive since Needham discloses in col. 4 lines 34 to 38 that its "invention is equally applicable to a multi-cell environment, where multiple base stations are used to relay transmissions from a sourcing location to multiple destination locations".
3. Applicant also argues that Needham only discloses a singular base station and thus it would not be obvious to modify Sato to assign a code associated with each group or network type where the group includes more than one base station. This is not persuasive since Needham discloses in col. 4 lines 34 to 38 that its "invention is equally applicable to a multi-cell environment, where multiple base stations are used to relay transmissions from a sourcing location to multiple destination locations".

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2631

5. Claims 1-9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "the same repetition period". There is insufficient antecedent basis for this limitation in the claim.

6. Claims 1-9 recite "said spreading codes" (such as in line 8 of claim 1) and earlier recites "a first spreading code" "a first spreading code group" "a second spreading code" "a second spreading code group". Thus, "said spreading codes" is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 1-9 recite the limitations "an information symbol period", "a wideband signal", "each base station group", "information rate". It is indefinite whether these limitations are referring to the same CDMA mobile communication system described earlier in the claim or not. For example, is the information symbol period the period of the same information which is being spread using the spreading codes?

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Needham et al USPN 6,188,767.

Art Unit: 2631

3. As per claim 1, Sato teaches a spreading code assigning (Sato fig. 1: 110 is assigned a code number; col. 1 line 35 indicates 64 spread codes) method in a direct sequence CDMA mobile communication system (Sato col. 1 lines 12 to 21 “digital mobile phone ... using ... CDMA ...”) for transmitting a signal (Sato fig. 1: output is to an antenna) after spreading said signal doubly (Sato fig. 1: 106, 108, 112) with a first spreading code in a first spreading code group (Sato fig. 1: 109, 110, bit rate, code number) and a second spreading code in a second spreading code group (Sato fig. 1: 114, base station code number), said first spreading code having the same repetition period as an information symbol period (Sato fig. 2: period of first spread code is the same as that of a repeated d1” or d1’), said second spreading code having a longer repetition period than the information symbol period (Sato fig. 2: period of second spread code is the same as that of a unrepeated d1” or d1’), said first spreading code and said second spreading code forming spreading codes for enlarging a band of a wide-band signal (inherent), a rate of said spreading codes being higher than an information rate (Sato fig. 2: in channel #2, rate of spreading code e2 is higher than d1’ and rate of spreading code c2 is higher than d1’), ... to which said base station group belongs as said second spreading code (Sato fig. 1: base station code number is input into 114, col. 1).

4. Sato does not teach said method comprising the step of assigning a code associated with each base station group including more than one base station or a code associated with each network type.

5. Needham teaches said method comprising the step of assigning a code associated with each base station group including more than one base station or a code associated with each network type in fig. 4: 402; also fig. 6 element 609 and fig. 7 element 712 both having “generate

Art Unit: 2631

longcode using talk group id". Also Needham discloses in col. 4 lines 34 to 38 that its "invention is equally applicable to a multi-cell environment, where multiple base stations are used to relay transmissions from a sourcing location to multiple destination locations".

Accordingly, the codes Needham discusses are applicable to a system with more than one base station.

6. It would have been obvious to one skilled in the art at the time of the invention to modify Sato to assign a code associated with each group or network type where the group includes more than one base station.

7. One would be motivated to do so for the reason taught in Needham – in order to support a group call – column 1 paragraphs 3, 4, 6.

8. As per claim 2, Sato teaches a signal transmitting method in a direct sequence CDMA mobile communication system for transmitting a signal after spreading said signal doubly with a first spreading code in a first spreading code group and a second spreading code in a second spreading code group, said first spreading code having the same repetition period as an information symbol period, said second spreading code having a longer repetition period than the information symbol period, said first spreading code and said second spreading code forming spreading codes for enlarging a band of a wide-band signal, a rate of said spreading codes being higher than an information rate, (discussed in claim 1 up to here) ... as said second spreading code (Sato fig. 1: base station code number is input into 114); and transmitting a signal (Sato fig. 1: output is to an antenna) which is spread with said second spreading code between a one of said

Art Unit: 2631

more than one base station and a mobile station (Sato col. 1 lines 22 to 37: "... from base station to mobile station ..."). (also see above discussions)

9. Sato does not teach said method comprising the steps of assigning a code associated with each base station group including more than one base station or a code associated with each network type to which said base station group belongs.

10. Needham teaches said method comprising the steps of assigning a code associated with each base station group including more than one base station or a code associated with each network type to which said base station group belongs in fig. 4: 402; also fig. 6 element 609 and fig. 7 element 712 both having "generate longcode using talk group id". Also Needham discloses in col. 4 lines 34 to 38 that its "invention is equally applicable to a multi-cell environment, where multiple base stations are used to relay transmissions from a sourcing location to multiple destination locations". Accordingly, the codes Needham discusses are applicable to a system with more than one base station.

11. It would have been obvious to one skilled in the art at the time of the invention to modify Sato to assign a code associated with each group or network type where the group includes more than one base station.

12. One would be motivated to do so for the reason taught in Needham – in order to support a group call – column 1 paragraphs 3, 4, 6.

13. As per claim 3, Sato teaches a direct sequence CDMA mobile communication system for transmitting a signal after spreading said signal doubly with a first spreading code in a first spreading code group and a second spreading code in a second spreading code group, said first

Art Unit: 2631

spreading code having the same repetition period as an information symbol period, said second spreading code having a longer repetition period than the information symbol period, said first spreading code and said second spreading code forming spreading codes for enlarging a band of a wide-band signal, a rate of said spreading codes being higher than an information rate, (discussed in claim 1 up to here). Sato also teaches in fig. 1 and col. 1 that the base station code number is input into 114; and a mobile station communicating with said base station by using a signal which is spread by said second spreading code assigned to said base station (Sato fig. 1: base station code number entering 114). (also see above discussions)

14. Sato does not teach said system comprising: a base station using said second spreading code assigned to each base station group or said second spreading code assigned to each network type to which said base station group belongs said base station group including more than one of said base station.

15. Needham teaches said system comprising: a base station using said second spreading code assigned to each base station group or said second spreading code assigned to each network type to which said base station group belongs said base station group including more than one of said base station in fig. 4: 402; also fig. 6 element 609 and fig. 7 element 712 both having “generate longcode using talk group id”. Also Needham discloses in col. 4 lines 34 to 38 that its “invention is equally applicable to a multi-cell environment, where multiple base stations are used to relay transmissions from a sourcing location to multiple destination locations”.

Accordingly, the codes Needham discusses are applicable to a system with more than one base station.

Art Unit: 2631

16. It would have been obvious to one skilled in the art at the time of the invention to modify Sato to assign a code associated with each group or network type where the group includes more than one base station.

17. One would be motivated to do so for the reason taught in Needham – in order to support a group call – column 1 paragraphs 3, 4, 6;

18. As per claims 4-6, they are discussed in respect to other claims above.

19. As per claim 7, Sato teaches the transmitter in the direct sequence CDMA mobile communication system as claimed in claim 4, said transmitter comprising: second spreading code control means (Sato fig. 1: 114 with its input) which generates (Sato fig. 1: 114) and controls (Sato fig. 1: input into 114) said second spreading code (Sato fig. 1: output of 114) associated with each base station group or each network type to which said base station group belongs (Sato fig. 1: base station code number).

20. As per claim 8, Sato teaches the receiver in the direct sequence CDMA mobile communication system as claimed in claim 5, said receiver comprising: second spreading code control means which generates and controls said second spreading code associated with each base station group or each network type to which said base station group belongs. (Discussed in respect to other claims. See above discussions)

Art Unit: 2631

21. As per claim 9, Sato teaches the transceiver in the direct sequence CDMA mobile communication system as claimed in claim 6, said transceiver comprising: second spreading code control means which generates and controls said second spreading code associated with each base station group or each network type to which said base station group belongs.

(Discussed in respect to other claims. See above discussions)

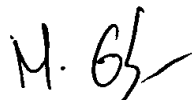
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Wed and Thurs after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK

  
MOHAMMAD H. GHAYOUR  
PRIMARY EXAMINER